

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Service Rules and Procedures to Govern the Use)	IB Docket No. 05-20
Of Aeronautical Mobile Satellite Service Earth)	
Stations in Frequency Bands Allocated to the)	
Fixed Satellite Service)	

COMMENTS OF TELESAT CANADA

1. Telesat Canada ("Telesat") hereby submits the following comments in response to the Notice of Proposed Rulemaking ("NPRM") adopted by the Federal Communications Commission ("FCC" or "the Commission") on 18 January 2005 in the above captioned proceeding concerning Aeronautical Mobile Satellite Service ("AMSS"). As the Commission is aware, Telesat is a Canadian-licensed fixed satellite service ("FSS") provider with a number of its satellites also on the FCC's Permitted Space Station List. Telesat therefore has a direct interest in the rules ultimately adopted by the Commission in this NPRM proceeding.

2. At the outset Telesat would note that it agrees that the use of Ku-band FSS satellites for the provision of AMSS provides an opportunity to offer a wide-range of desirable services to the traveling public onboard aircraft, as well as a growth opportunity for FSS providers, and supports the secondary allocation to the AMSS in the uplink direction in the 14.0-14.5 GHz band that was made internationally at the 2003 World Radiocommunications Conference ("WRC-03"), as well as the technical and operational requirements contained in ITU Recommendation ITU-R M.1643. At the same time, however, Telesat stresses that the existing primary allocation to the FSS must be protected and other FSS services must not be exposed to harmful interference from such AMSS use.

3. Regarding the Commission's proposal to establish a new non-Federal government footnote to the U.S. Table of Frequency Allocations for the 11.7-12.2 GHz band, Telesat is of the view that aircraft Earth station ("AES") terminals receiving in this band should not be entitled to protection afforded to primary services in that band. [NPRM at ¶15] This is consistent with the

treatment of the companion uplink band 14.0-14.5 GHz. To the extent that AES terminals meet the pointing accuracy and other characteristics of FSS earth stations, they will receive the same levels of protection from adjacent satellite interference. However, AMSS should not impose any coordination conditions on adjacent operators providing FSS services.

4. Telesat concurs with the view of Boeing that AMSS operations in the 11.7-12.2 GHz downlink band are best handled on a non-protected basis. [NPRM at ¶16-17] Telesat agrees that the signal characteristics of the FSS transponder used for AMSS downlink operations will not be distinguishable from other FSS signals, and that AES design must necessarily take into account the FSS interference environment. There appears, therefore, to be no reason to institute a secondary downlink allocation. In this regard, Telesat notes that the ITU *Radio Regulations* do not incorporate a secondary allocation to the AMSS in the Ku-band downlink.

5. Telesat similarly believes that AMSS operations in the “extended” Ku-band downlink should be permitted on a non-interference and non-protected basis whether within or outside United States airspace. [NPRM at ¶18] Since operations would be on a non-protected basis, there should be no need to restrict usage in order to protect other primary services, for example through the application of footnote NG104.

6. Telesat supports the proposal that AES terminals communicate with FSS space stations in the 14.0-14.5 GHz band on a secondary basis, consistent with the international allocation in the ITU *Radio Regulations*. [NPRM at ¶20] Telesat believes that the provisions 5.29, 5.30 and 5.31 of the *Radio Regulations* provide clarity as to the relative status of primary and secondary services and of services within the same category, and that the use of the band for secondary MSS and for ESV operations does not raise any additional issues.

7. Consistent with this secondary allocation status for AMSS in this uplink band, but not for the 11.7-12.2 GHz downlink for the reasons mentioned above, Telesat suggests the following wording for footnote NGyyy: [NPRM at ¶31]

“In the band 14.0-14.5 GHz (Earth-to-space), aircraft earth stations in the secondary aeronautical mobile-satellite service may communicate to satellites operating in the Fixed-Satellite Service (FSS). The provisions of ITU *Radio Regulations* Nos. 5.29, 5.30, and 5.31 apply.”

8. Regarding the Commission's proposals concerning the protection of adjacent satellite operators, Telesat agrees that the aggregate off-axis EIRP density levels generated by all co-frequency AES terminals should not exceed the levels coordinated for FSS networks. [NPRM at ¶34 -40] Telesat doubts, however, the practicality of having the Network Control and Monitoring Centers ("NCMCs") control the aggregate EIRP, and therefore ensure the protection of adjacent satellite networks, on a real-time basis. Telesat therefore supports the Commission's approach of imposing off-axis EIRP limits to individual terminals, with a 10 log N reduction factor applicable when there are multiple co-frequency AES transmissions.

9. Comment is also sought in the NPRM on the relationship between unprotected receive operations for AES terminals in the 11.7-12.2 GHz band and technical standards applicable to those operations. [NPRM at ¶39] Consistent with its comments at 4 above concerning the NPRM at ¶16-17, Telesat agrees that AMSS operations in the 11.7-12.2 GHz downlink band are best handled on a non-interference and non-protected basis. In such a case, there is no need to impose technical standards applicable to the receive terminals.

10. Telesat further believes that operation with EIRP density levels exceeding the mandated values should be permitted only upon evidence of coordination with all satellite networks within the ITU coordination arc (i.e. +/-9 degrees at Ku-band). [NPRM at ¶40]

11. Regarding antenna pointing accuracy, Telesat supports the requirement for a technical showing from AMSS applicants that off-axis EIRP density levels will not be exceeded. [NPRM at ¶41] Telesat also supports the need to impose a signal inhibit function to prevent unintended satellite tracking, central control through an NCMC, and AES self-monitoring capability. [NPRM at ¶42-44] All of these measures will serve to lessen the risk of harmful interference to adjacent FSS networks.

12. Regarding licensing requirements, Telesat is of the view that it is appropriate for AES terminals to operate under blanket licensing rules, as licensing of individual terminals is likely to be both impractical and unnecessary. [NPRM at ¶47-50] The blanket licensing provisions should incorporate the necessary requirements to ensure compliance with operational considerations that minimize interference.

13. With respect to ALSAT authority, the provisions applicable to networks communicating with non-U.S. satellites on the Permitted Satellite List should not differ from those applicable to networks communicating with U.S.-licensed satellites. [NPRM at ¶51] AMSS licensees should be allowed to access any ALSAT satellite, provided that compliance with 2 degree spacing rules is demonstrated. It is the responsibility of the satellite operator to ensure that the AMSS network complies with any other conditions contained in their frequency coordination agreements.

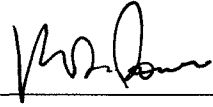
14. Telesat believes that maintenance of tracking data by AMSS operators could be useful in tracking down non-compliant AESs that cause harmful interference. [NPRM at ¶54-55] Since the stations are mobile, interference to another operator or service is likely to be transient, making it difficult to identify the source during the period of interference. As in other cases of interference, the best recourse is contact between satellite operators, with escalation to administrations when required in the absence of adequate response or difficulty in determining the operator responsible for the harmful interference.

15. Since the AMSS service offering in the Ku-band range of frequencies is made available only on a non-interference and non-protected basis, AMSS operators and service providers should be required to clearly communicate this aspect of their service to customers, as well as ensuring that no safety-of-life and security services are carried via this service.

16. Finally, Telesat agrees that operations in foreign airspace necessitate that the AMSS operator ascertain what parameters and restrictions exist and meet the specific requirements applied by the relevant administration. Telesat also agrees that all AES operations over international waters must be confirmed to be consistent with the coordinated parameters of the hosting satellite network, in order to prevent harmful adjacent satellite interference. [NPRM at ¶58-67]

Respectfully submitted,

Telesat Canada

A handwritten signature in black ink, appearing to read 'R. Power', is positioned above a horizontal line.

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